Parent-Pupil

MATHS

Information File 4

Data Handling
including Probability

for SEAG Entrance Assessment

PMP Publications

Other titles available from PMP Publications
for SEAG Entrance Assessment preparation

- Parent-Pupil English Information File 1: *Punctuation, Grammar and Spelling*
- Parent-Pupil English Information File 2: *Comprehension and Vocabulary*
- English Punctuation, Grammar and Spelling Test Pack 1 (*39 check-up exercises*)
- English Punctuation, Grammar and Spelling Test Pack 2 (*27 check-up exercises*)
- English Comprehension Test Pack 1 (*16 tests*)
- English Comprehension Test Pack 2 (*16 tests*)

- Parent-Pupil Maths Information File 1: *Number*
- Parent-Pupil Maths Information File 2: *Measures*
- Parent-Pupil Maths Information File 3: *Shape and Space*
- Parent-Pupil Maths Information File 4: *Handling Data*
- Maths Question Test Pack (*6 tests*)

- Practice Tests Series 1 (*3 complete tests*)
- Practice Tests Series 2 (*3 complete tests*)
- Practice Tests Series 3 (*3 complete tests*)

Contents

Introduction

This Information File is a comprehensive revision package in Maths covering all aspects of the **Handling Data** attainment target as required for the SEAG Entrance Assessment (which covers Probability and Data Representation). The 4 books in the series provide a comprehensive revision guide for parents, and also covers the mathematics requirements of The Northern Ireland Curriculum for the end of Key Stage 2.

It should be understood, however, when using the book that [illegible] processes can often be performed in more than [illegible] prescribed [illegible], and for some children the methods outlined within the file might not always 'unlock the door' to understanding.

We recommend that when a child is experiencing difficulty in grasping a specific mathematical process the parent should meet with their child's class teacher to discuss the nature of [illegible] problem and possible solutions to it.

The Information File comprises:

- A comprehensive reference file detailing information that children should know for the **Handling Data** attainment target of the mathematics element of the SEAG Entrance Assessment and at the end of Key Stage 2. The content, which should be learnt, is outlined briefly in the ***NEED TO KNOW*** boxes.

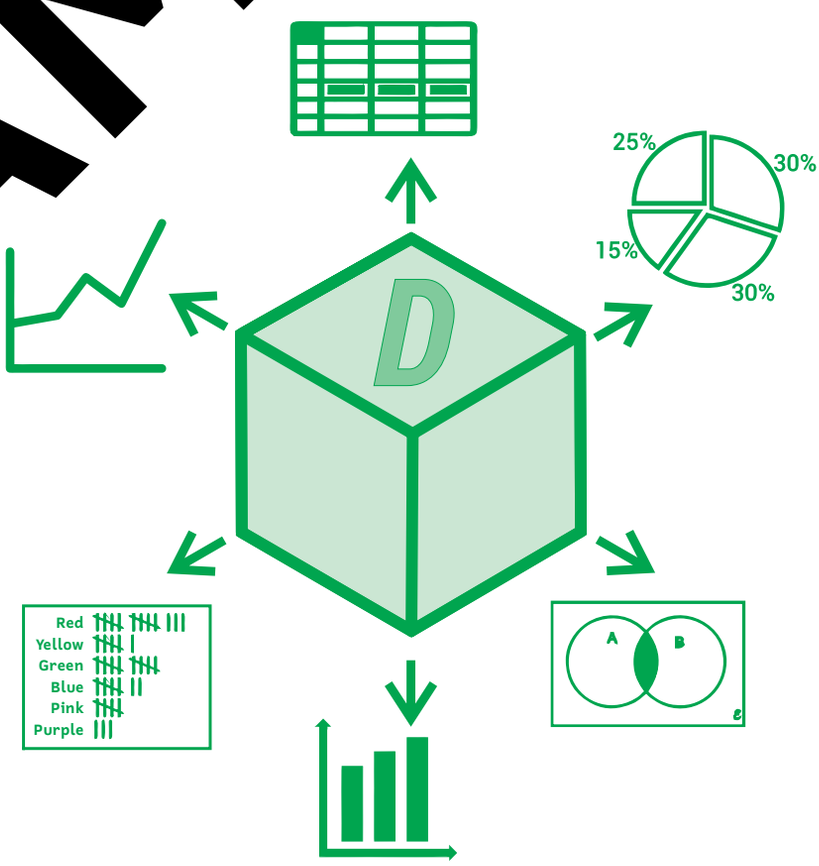
NEED TO KNOW

- A variety of example questions, with annotated step by step procedures illustrating how answers can be calculated.

Step 1
Step 2
Step 3

- 3 practice tests that mirror the format of the maths element of the SEAG Entrance Assessment.

Handling Data



Constructing & interpreting frequency tables

NEED TO KNOW

Children should know how to tally data and be able to construct and interpret frequency tables.

Tally marks

Tally marks are used when collecting data in order to count how often an event occurs.

Tally marks are grouped in fives, which makes counting them easier. Each tally is a single vertical line (|). Instead of five single tally marks, the fifth tally mark is made by crossing the other four.

e.g. |||| = 4

𝍸 = 5

𝍸 𝍸 | = 11

𝍸 𝍸 𝍸 𝍸 || = 22

A frequency table by hand can be used to present results. The data on a frequency table is normally counted or collated using the tally method as demonstrated above.

Example

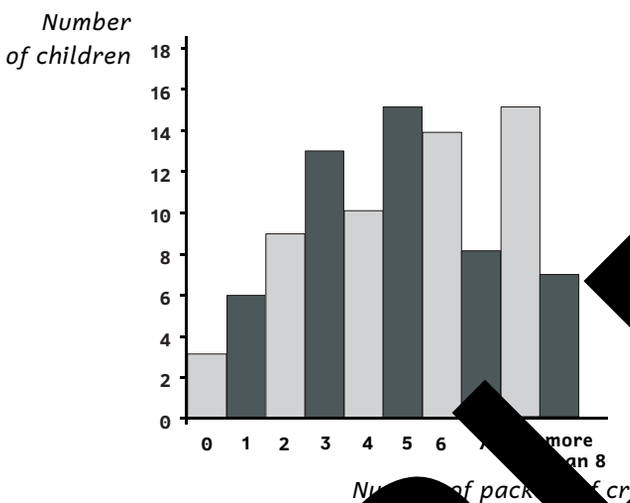
Number of cups of coffee drunk by teachers in a day.

The **frequency** column is the tally total recorded as a number.

Teacher	Tally	Frequency
Mrs Hutchinson	𝍸 ||	7
Mrs Bell	||	2
Miss Ritchie	𝍸 𝍸 ||	12
Mr Whyte	𝍸 𝍸	10

? *Example questions*

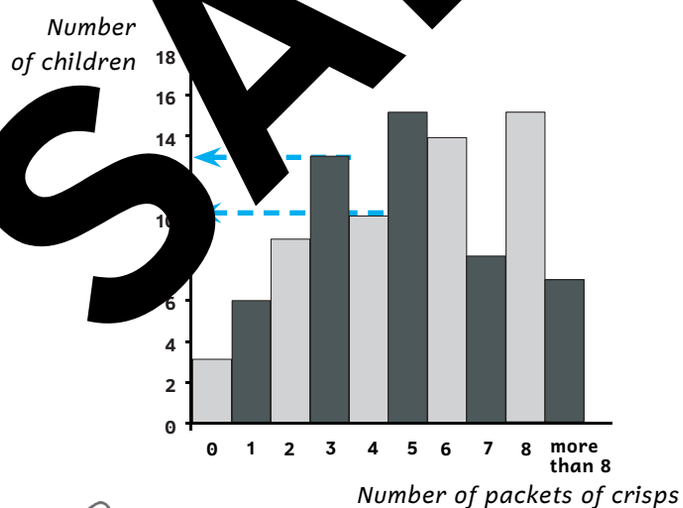
Questions 1 to 3 below relate to this graph, which shows the number of packets of crisps 100 pupils in a Year 7 class ate in one week.



1 **How many children ate less than 5 packets of crisps in a week?**

Step 1 Find the columns in the graph that show children who ate less than 5 packets of crisps, i.e. 4, 3, 2, 1 and 0 packets.

Step 2 Draw a line from the top of each of these columns across to the vertical axis and record each number.
(*The first two lines have been drawn in below.*)



Step 3 Add up the total number of children who ate 4 packets, 3 packets, 2 packets, 1 packet and 0 packets of crisps in a week.

Calculation	
4 packets =	10
3 packets =	13
2 packets =	9
1 packets =	6
0 packets =	3
TOTAL PACKETS =	41

Answer: 41

2. Carroll Diagrams

Carroll Diagrams show or display information in a grid type format, each grid representing (standing) for a certain thing.

? *Example question*

2 **Arrange the numbers 1, 3, 6, 8, 12, 15, 17, 19, 22, 27 on the Carroll Diagram below.**

Step 1 Each number should be taken one at a time and sorted accordingly, e.g. as **1** is neither an even number nor a multiple of 3 it is placed in the square where the two "not" criteria cross. See arrows below.

	Multiple of 3	Not a multiple of 3
Even number	12	8 22
Not an even number	3 15 27	1 17 19

3, 15 and 27 are *multiples of 3* but *not even numbers.*

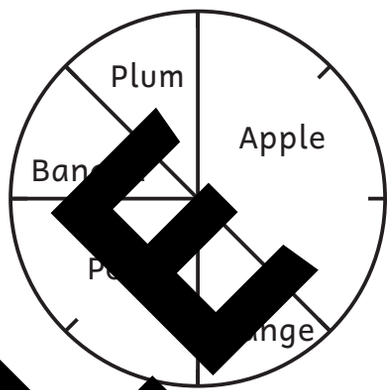
1, 17 and 19 are **neither** *multiples of 3* **nor** *even numbers.*

Type 2. Pie Charts split into equal divisions

Pie Charts can be divided into a certain number of parts by little divisions on the outside of the circle (like a clock face).

? *Example question*

2 The Pie Chart shown has equal divisions and each item takes up a certain number of divisions. It shows the favourite fruit of 240 children in Tenby Primary School.



How many children liked each fruit best?

Step 1 Count the total number of divisions in the Pie Chart (the little lines around the edge).

There are 8 divisions on the Pie Chart.

Step 2 Make a fraction for each part (type of fruit):

Apple = ⅜
Banana = ⅛
Orange = ⅛
Pear = ²⁄₈
Plum = ⅛

Step 3 Using each fraction calculate the number of children who liked each fruit best.

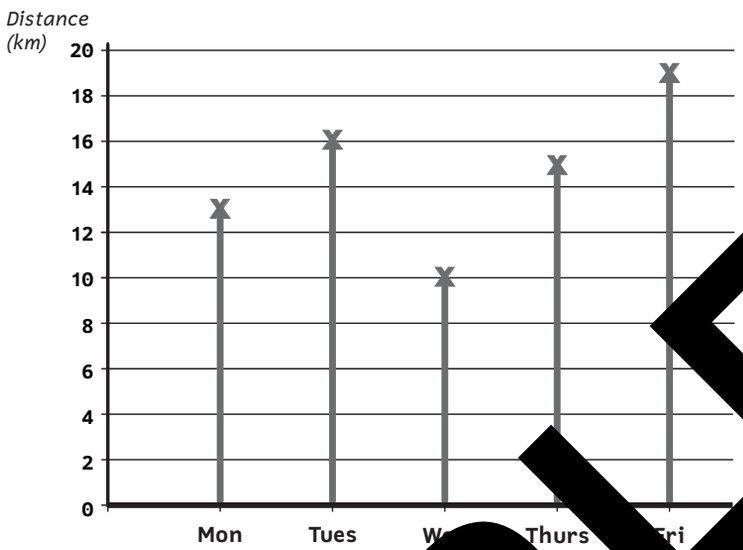
To find the fraction of the number, divide the number by the bottom part of the fraction and multiply by the top.

Apple: ⅜ of 240

$$8 \overline{)240} \quad 30 \times 3 = 90 \text{ children}$$

Banana: ⅛ of 240 = 30 children
Orange: ⅛ of 240 = 30 children
Pear: ²⁄₈ of 240 = 60 children
Plum: ⅛ of 240 = 30 children

15 Sangeetha and her friends went on a cycling holiday.
The chart shows how far they cycled each day.

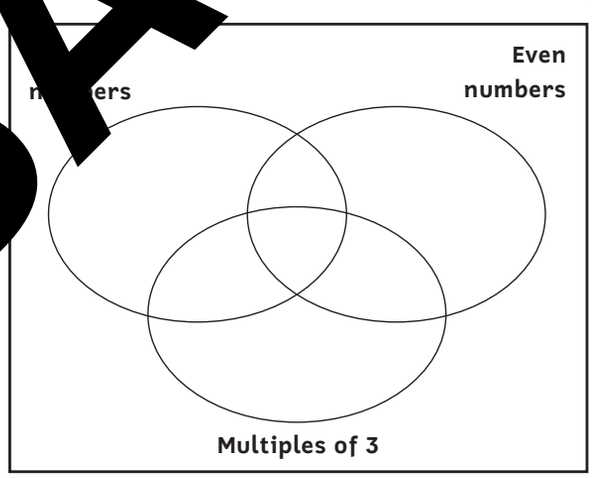


What was the daily average distance they cycled on their holiday?

A 14 km **B** 15 km **C** [illegible] km **D** 15.6 km **E** 14.4 km

16 Here are some numbers to be placed on a Venn Diagram.

9 30 [illegible] 25 21 14 4 16 99 49

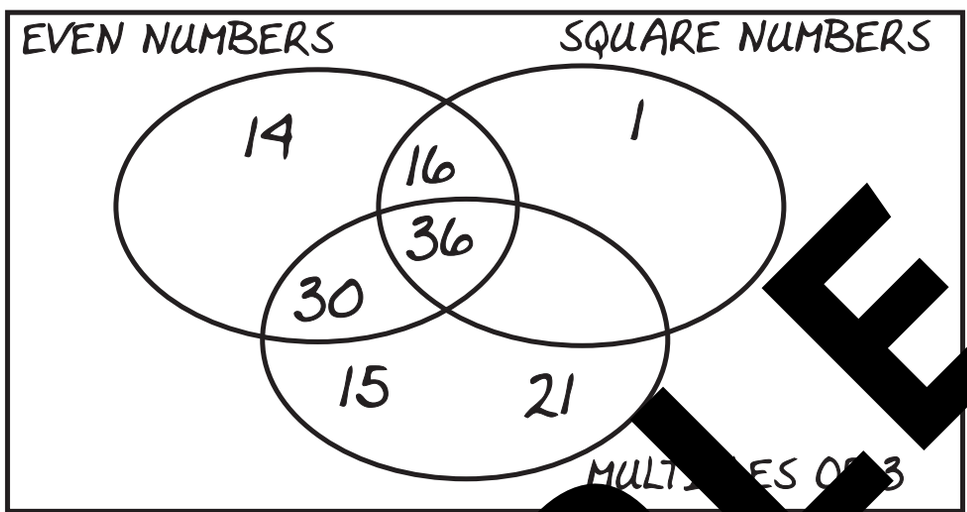


How many numbers are Square numbers and also Multiples of 3?

A 5 **B** 2 **C** 1 **D** 3 **E** 4

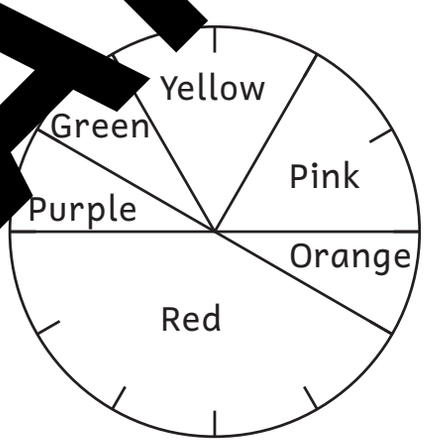
For questions 23–28 you have to **write your answers**, neatly, in the box beside the question.

23 Here is a Venn Diagram.



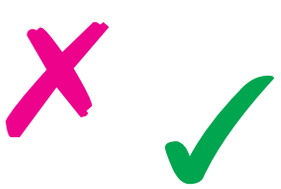
Which numbers are both even and square?

24 The pie-chart shows the favourite colour of 240 pupils in a school.



Which colours did ⅙ of the pupils say they preferred?

Answer Key



Handling Data

Test 1

see page 31

1. D – 1250
2. B – 18°
3. C – 15
4. D – 7½
5. B
6. D – 5 mm
7. B – 1440
8. D – 60%
9. E – Kelly
10. D – Likely
11. E – 45
12. D – 45
13. D – Likely
14. D – 4½ hrs
15. B – Unlikely
16. D – 30%
17. B – 12
18. B – Helsinki, Finland
19. E – Certain
20. B – The total [illegible] of lions and tigers is [illegible]
21. B – 500
22. C –
23. 3
24. 81
25. 81
26. 23%
27. 71–80
28. Sep, Nov
    (*or* September, November)

Test 2

see page 45

1. C – Even Chance
   or Fifty-fifty chance
2. E – 10
3. D – 5
4. C – Player 3
5. A – No Chance
6. E – 2001–2011
7. B – 6 hours
8. B – 12 mins
9. E – Line Grap
10. D – 3h 40m
11. C – [illegible] pupils take [illegible] bus to sc
12. [illegible] 300
13. D
14. [illegible] 42%
15. [illegible] – Even Chance
    [illegible] ifty-fifty chance
16. C – 24°
17. D – ½°
18. C – Luke
19. D – 25%
20. D – 3
21. D – 23
22. C – 1h 50m
23. 40
24. 12°C
25. 4h 45m or 4¾ hours
26. £80
27. 16
28. 9